

## **Water Quality Volume (WQV)** **Calculations**

Palladian Builders  
49 Sunswyck Road  
Darien, Connecticut  
Dated: 02/18/20  
Revised: 07/09/20

### **Water Quality Volume Calculations**

Water Quality Volume (WQV) = ((1") (R) (A)) / 12

Where:

A = total area in square feet

R = 0.05 + 0.009 (I)

I = percent impervious cover

### **Proposed Site Development – Lot # 1 : Available Storage = 213 cu-ft @ elev 46.75** **Sub-Catchment Post # 1**

A = 1,305 sf (house roof)

I = 95%

R = 0.05 + 0.009 (95.0%)

R = 0.905

WQV = ((1") (R) (A)) / 12

WQV = ((1") (0.905) (1,305 sf)) / 12

WQV = 98 cu-ft (required)

### **Proposed Site Development – Lot # 1 : Available Storage = 247 cu-ft @ elev 48.0** **Sub-Catchment Post # 1a**

A = 6,090 sf (proposed driveway, house roof, lawn, woods)

I = 45.6% (2,778/6,090) = 45.6%

R = 0.05 + 0.009 (45.6%)

R = 0.46

WQV = ((1") (R) (A)) / 12

WQV = ((1") (0.46) (6,090 sf)) / 12

WQV = 234 cu-ft (required)

**Proposed Site Development – Lot # 2 : Available Storage = 360 cu-ft @ Elev 46.1**

A = 8,008 sf (proposed driveway, house roof and lawn)

I = 49.56% (3,969/8,008) = 49.56%

R = 0.05 + 0.009 (49.56%)

R = 0.496

WQV = ((1") (R) (A)) / 12

WQV = ((1") (0.496) (8,008 sf)) / 12

WQV = 331 cu-ft (required)